

## **ABSTRACT**

An integrated passive wireless chip diagnostic sensor system is described that can be interrogated remotely with a wireless device such as a modified cell phone incorporating multi-protocol RFID reader capabilities (such as the emerging Gen-2 standard) or Bluetooth, providing universal easy to use, low cost and immediate quantitative analyses, geolocation and sensor networking capabilities to users of the technology. The present invention can be integrated into various diagnostic platforms and is applicable for use with low power sensors such as thin films, MEMS, electrochemical, thermal, resistive, nano or microfluidic sensor technologies. Applications of the present invention include on-the-spot medical and self-diagnostics on smart skin patches, Point of Care (POC) analyses, food diagnostics, pathogen detection, disease-specific wireless biomarker detection, remote structural stresses detection and sensor networks for industrial or Homeland Security using low cost wireless devices such as modified cell phones.